Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour \_\_\_\_\_\_\_\_\_\_\_\_\_

**Anhinga**

|  |  |
| --- | --- |
| **Dominant Trait** | **Recessive Trait** |
| Knifebill | Spoonbill |

List the 3 possible genotypes and corresponding phenotypes for the beaks in this population using the letter A.

|  |  |
| --- | --- |
| Genotype | Phenotype |
|  |  |
|  |  |
|  |  |

\*Class Phenotype Data & Graph

|  |  |  |
| --- | --- | --- |
| Generation | # of Knifebills | # of Spoonbills |
| 1 |  |  |
| 2 |  |  |
| 3 |  |  |
| 4 |  |  |
| 5 |  |  |

**Generation 1:** ½ heterozygous, ½ homozygous dominant

My genotype is:

My phenotype is:

\* Record Generation 1 phenotype class data in the chart above.

I collected \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ insects. **I lived** or **I died** (circle one)

**Generation 2:**

What are the chances that the offspring will have the following phenotype?

Knifebill:

\_\_\_\_\_\_\_ out of 4 = \_\_\_\_\_\_\_\_\_\_%

Spoonbill:

\_\_\_\_\_\_\_ out of 4 = \_\_\_\_\_\_\_\_\_\_%

aa: \_\_\_\_\_\_\_ out of \_\_\_\_\_\_\_ or \_\_\_\_\_\_\_%

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

My genotype is:

My phenotype is:

\* Record Generation 2 phenotype class data in the chart above.

I collected \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ insects. **I lived** or **I died** (circle one)

**Generation 3:**

What are the chances that the offspring will have the following phenotype?

Knifebill:

\_\_\_\_\_\_\_ out of 4 = \_\_\_\_\_\_\_\_\_\_%

Spoonbill:

\_\_\_\_\_\_\_ out of 4 = \_\_\_\_\_\_\_\_\_\_%

aa: \_\_\_\_\_\_\_ out of \_\_\_\_\_\_\_ or \_\_\_\_\_\_\_%

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

My genotype is:

My phenotype is:

\* Record Generation 3 phenotype class data in the chart above.

I collected \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ insects. **I lived** or **I died** (circle one)

**Generation 4:**

What are the chances that the offspring will have the following phenotype?

Knifebill:

\_\_\_\_\_\_\_ out of 4 = \_\_\_\_\_\_\_\_\_\_%

Spoonbill:

\_\_\_\_\_\_\_ out of 4 = \_\_\_\_\_\_\_\_\_\_%

aa: \_\_\_\_\_\_\_ out of \_\_\_\_\_\_\_ or \_\_\_\_\_\_\_%

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

My genotype is:

My phenotype is:

\* Record Generation 4 phenotype class data in the chart above.

I collected \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ insects. **I lived** or **I died** (circle one)

**Generation 5:**

What are the chances that the offspring will have the following phenotype?

Knifebill:

\_\_\_\_\_\_\_ out of 4 = \_\_\_\_\_\_\_\_\_\_%

Spoonbill:

\_\_\_\_\_\_\_ out of 4 = \_\_\_\_\_\_\_\_\_\_%

aa: \_\_\_\_\_\_\_ out of \_\_\_\_\_\_\_ or \_\_\_\_\_\_\_%

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

My genotype is:

My phenotype is:

\* Record Generation 5 phenotype class data in the chart above.

I collected \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ insects. **I lived** or **I died** (circle one)

**Reflection Questions**

1. What type of variation existed within the anhinga population?

2. What does "survival of the fittest" mean?

3. How was this simulation similar to natural selection in the wild?

4. How was this simulation different from natural selection in the wild?

5. What adaptation allowed the most anhinga to live in the last 2 generations? Why?